PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(MBHB Case No. 99-853)

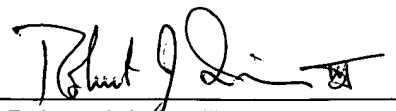|	
In re Application of:	)
	)
Kaminsky et al.	)
	) Art Unit: 3627
Serial No.: 09/475,534	)
	) Examiner: Rudy, Andrew J.
Filed: December 30, 1999	)
	)
For: Automated Trading Exchange System	)
Having Integrated Quote Risk Monitoring	)
and Integrated Quote Modification Services	)

TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In regard to the above identified application:

1. We are transmitting herewith the attached:
    a) Resubmission in Response to Notice Mailed July 18, 2005: Appellant's Brief in Support of the Appeal to the Board of Patent Appeals and Interferences in triplicate; and
    b) Return Receipt Postcard.

2. With respect to additional fees:
    a) No fees are due at this time.
    c) Please charge any additional fees or credit overpayment to our Deposit Account No. 13-2490.

3. CERTIFICATE OF MAILING UNDER 37 CFR § 1.10: The undersigned hereby certifies that this Transmittal Letter and the papers, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as "Express Mail Post Office to Addressee," addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 18, 2005 under Express Mail Certificate No. EV596646503US.

Respectfully submitted,

By: _____
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S/N: 09/475,534
FILING DATE: 30 DEC 1999

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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	)	Group Art Unit: 3627
Filed: December 30, 1999	)	
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For: **Automated Trading Exchange**	)	
System Having Integrated Quote	)	
Risk Monitoring and Integrated	)	
Quote Modification Services	)	

Board of Patent Appeals and Interference
US Patent and Trademark Office
PO Box 1450
Alexandria, Virginia 22313-1450

APPELLANTS' BRIEF IN SUPPORT OF

THE APPEAL TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

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APPELLANTS' BRIEF IN SUPPORT OF THE APPEAL
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

I. REAL PARTY IN INTEREST

The real party in interest for the above-referenced application is CHICAGO BOARD OPTIONS EXCHANGE, whose address is: 400 South LaSalle Street, 7th Floor, Chicago, Illinois 60605.

II. RELATED APPEALS AND INTERFERENCES

Appellants' legal representative is unaware of any other appeals or interferences that will directly affect, be directly affected by or have any bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-7, and 29-30 are canceled.

Claims 8-28 are pending and stand finally rejected.

Claims 31-37 are withdrawn subject to a restriction requirement, and are not at issue in this appeal.

All of the finally rejected claims 8-28 are appealed.

IV. STATUS OF AMENDMENTS

No amendments have been filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Appellants' invention relates in general to financial trading systems. More particularly, it is directed a method and device for market-maker risk management through automatic quote risk monitoring and quote modification in an automated trading system. The system monitors trades associated with a market maker's quotes, and determines a

change in the market maker's position as measured by a risk calculation. The system then modifies the quotes if a risk threshold is exceeded.

Appellants' independent Claim 8 claims a method of "modifying quotes in an automated exchange trading system." The preamble describes a method of modifying quotes in an automated exchange trading system (see, e.g., Specification, pages 4-17, which describes the hardware and software modules in one preferred embodiment) that receives orders and quotes from remote computers (see, e.g., Specification p. 8, line 4 to p. 10, line 26; Figure 1, elements 114-124; Figure 3 elements 272, 278, 280, 276; p. 15, lines 3-27; p. 16, line 19 through p. 17, line 11), matches the orders and quotes to generate trades (e.g., Specification p. 8, line 4 to p. 10 line 26; Figure 3; p. 14, line 25 to p. 15, line 27; p. 16, line 19 through p. 17, line 11), and stores orders and quotes that are unmatched (Specification p. 8, line 4 to p. 10 line 26; Figure 3; p. 15, lines 3-27; p. 16, line 19 through p. 17, line 11).

The method consists of the following steps. First, "trading parameters comprising a risk threshold" are received by the exchange and "said trading parameters" (Specification p. 17, line 12 through p. 21, line 2; Figure 3, elements 270, 271) are associated "with specified ones of received quotes." (Specification p. 3 lines 10-16; p. 15, lines 3-27; p. 16, line 11 to p. 17, line 4). Then, it is determined "whether a quote having associated trading parameters has been filled as a result of the generated trade." (Specification, p. 16, lines 24-31; p. 17, lines 12-18; Figure 3, element 284). If that is the case, then a "risk level" and an "aggregate risk level associated with the trade" is determined. (Specification, p. 17, line 19 to p. 21, line 3). Then, the "risk threshold" and "aggregate risk level" are compared. (Specification p. 17, lines 14-15; p. 21 lines 3-25; Figure 3, element 286). Finally, "at least

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one of the specified ones of received quotes" is modified if the "threshold is exceeded."

(Specification p. 17, lines 19-25; p. 20. lines 4-6; p. 21, line 3 though p. 24, line 10; Figure

3, element 287).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 8-28 stand rejected as being obvious under 35 U.S.C. §103(a) over Broka et

al. US Patent. 5,809,483 (hereinafter *"Broka"*) in view of Mandler et al. US Patent

5,732,400 (hereinafter *"Mandler"*).

VII. ARGUMENT

The Examiner rejected Claims 8-28 in the final Office Action as obvious under 35

U.S.C. §103(a). Appellants respectfully assert that the Examiner's rejection does not meet

the statutory standard required for an obviousness rejection.

A. Summary of the Argument

The prior art cited by the Examiner, alone or in combination, fails to show an

exchange system that (i) uses a risk threshold associated with a quote; (ii) includes a risk

level or aggregate risk level that is determined as a result of a trade; or (iii) uses the

threshold and aggregate risk level to automatically modify a quote. Applicants

acknowledge that it is well known for traders to engage in the modification of quotes: prior

art exchanges allow users to submit messages containing quote cancellation requests and to

submit electronic messages containing new or revised quotes. These prior art exchange

systems, however, have disadvantages, including the use of computer message queues that

receive quote submission or cancellation messages from remote terminals. Under times of

high trading volume, these messages queues might cause processing delays of newly submitted cancellation requests, new quotes and/or revised quotes.

On the other hand, Applicants' claimed invention overcomes these and other disadvantages. Applicants respectively submit that it is not known to provide an order matching exchange system that allows its users to provide risk threshold information to the exchange, and to have the exchange system perform risk assessment calculations and responsively make automatic determinations regarding quote regeneration or modification in response to the calculated risk, together with the parameters provided by the user. The claimed system provides for automatic quote modification and/or regeneration and does not require the user to submit quote cancellation requests or quote resubmissions as does the prior art.

Applicants submit that the Examiner's remarks indicate that the pending rejections are impermissible hindsight reconstruction of the claimed invention, which is simply not present in the prior art. Consequently, for the reasons set forth in more detail below, the Applicants believe that the references cited by the Examiner do not render claims 8-28 obvious.

B. The Statutory Standard

35 U.S.C. § 103(a) provides that an invention is not patentable:

> if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

The test for obviousness is well known. The obviousness inquiry requires:

(1) an inquiry into the scope and content of the prior art;

and then selects the Modify button ... the system displays the Modify quote window" shown in Figures 21(a) or (b), depending on whether the user is a dealer or broker. (*Broka*, col. 15, lines 13-18). The specification further describes that the user must select an "uptick" or a "downtick" to indicate how the quote should be modified. (Id. at lines 41-47). Importantly, the quote modification in *Broka* is not automatically performed, it does not involve a calculation of risk or aggregate risk as a result of a generated trade, and it is not done in response to a risk threshold comparison, which are all elements of the presently rejected claims.

2. *The Mandler Reference*

Mandler discloses a system including a financial clearing house that couples to a broker computer system that in turn provides an on-line quote and order processing service. (*Mandler*, Col. 3, line 66 to Col. 4, line 3). The risk assessment disclosed in *Mandler* is the determination of a buyer's risk classification to determine certain credit terms, such as a discount rate, to use for the buyer's transactions. (*Mandler*, Col. 3, lines 39-55).

3. *The Broka-Mandler Combination*

Neither of the references shows (i) an exchange system that uses a risk threshold associated with a quote; (ii) a risk level or aggregate risk level that is determined as a result of a trade; or (iii) the use of the threshold and aggregate risk level to automatically modify a quote. Thus, even when combined, the references do not result in the claimed invention.

The Examiner's rejections are mere assertions of obviousness without providing a well-reasoned statement of why the claims are obvious as required by the MPEP. In forming the combination, the Examiner acknowledged that *Broka* does not disclose "risk

assessment or storing unmatched orders and quotes," but then stated that storing "unmatched orders and quotes are known in computer-automated stock/bond trading systems" was "common knowledge." Even if these modifications were proper (which Applicants do not concede), *Broka* still does not disclose the missing elements. Specifically, the use of the threshold and aggregate risk level to automatically modify a quote is missing.

The Examiner further stated that such a modification of *Broka* for the purposes of modifying a quote would be obvious in view of *Mandler* because one would be motivated "to incorporate well-known risk assessment criteria business rules... to assess whether a trade is executed or not." This statement indicates that the Examiner has misread the Applicants' claim limitations, resulting in the Examiner's misplaced reliance on *Mandler*, which teaches that a potential buyer's risk classification is dynamically determined for use in authorizing a pending transaction or request. (*Mandler*, col. 3, lines 39-54). In this regard, the Examiner has maintained the position that the steps set forth in the claims do not require any "particular sequence of events," and therefore apparently any use of risk measurement and quote updates is all that is required by the claims.

This is clearly not the case. In Applicants' invention, the level of risk assessment is not used to determine whether a trade is (or should be) executed. Rather, the risk level in Applicants' invention is determined after the trade has been executed, as set out in the claim:

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(2) identification of the differences between the prior art and the claimed invention;

(3) determination of the level of ordinary skill in the art at the time of the invention; and

(4) consideration of objective evidence of secondary considerations indication non-obviousness.

Graham v. John Deere Co., 383 U.S. 1, 17 (1966). The PTO has the burden of establishing a prima facie case of obviousness. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

To satisfy this burden, the proposed combination of prior art must show each element of the claimed invention. In addition, the Examiner must show some objective teaching in the prior art to suggest the combination, or explain how one of ordinary skill in the art would be motivated to combine the relevant teachings. *See id.* A proposed modification of a prior art reference is inappropriate for an obviousness inquiry when the modification renders the prior art reference inoperable for its intended purpose. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984).

C. *Broka* and *Mandler* Do Not Disclose Appellants' Claimed Invention

The Examiner's combination of *Broka* and *Mandler* does not show all of the elements present in Appellants' Claims 8-28.

1. *The Broka Reference*

Broka is an online transaction processing system that provides a manual quote modification screen. The quote modification screen identified by the Examiner appears to relate to a graphical user interface that allows an individual to selectively modify quotes. In particular, the specification of *Broka*, at column 15, indicates that if a user "selects a quote

determining whether a quote having associated trading parameters has been filled as a result of a generated trade, and if so, determining a risk level and an aggregate risk level *associated with said trade*;

This element specifies that the risk level and aggregate risk level are calculated based on a trade that was just generated. The levels are then used to determine whether quotes are automatically modified, which would only be relevant for a subsequent trade. Thus, again, the combination of *Broka* and *Mandler* simply do not result in the Applicants' claimed invention.

The Examiner has also stated that *Mandler's* risk assessment "is deemed automatic." However, this statement by the Examiner is irrelevant, since regardless of whether the risk assessment is automatic, *Mandler* is not used to determine whether to modify a quote. Thus it is clear that while *Mandler* involves a risk assessment of sorts, it does not teach the association of the risk threshold to a quote, nor does it teach a risk level or aggregate risk level associated with an already executed trade, nor the use of the threshold and aggregate risk level to automatically modify a quote. Thus, the combination of *Broka* and *Mandler* simply does not result in the Applicants' claimed invention.

The Examiner has also stated that Applicants' claims do not preclude the manual operations of *Broka*, and that the quote modification of *Broka* is deemed to be automated by virtue of it use "in conjunction with a computer-to-computer interface (CTCI) 150." First, in view of the Examiner's admission that "*Broka* does use a _manual_ quote modification screen," a finding that the quote modification of *Broka* is automatic is not well-founded. (emphasis added)

Second, and more importantly, the mere presence of a computer interface does not justify a conclusion that *Broka* performs an automated quote modification. The claim specifically requires an automated quote modification based on the threshold comparison of the previous step:

> automatically modifying at least one of the specified ones of received quotes if said threshold is exceeded.

Thus, even if *Broka* was deemed to be automated, it would still not perform any actions based on a threshold comparison.

The rejection should be reversed because even when combined, the references do not result in the claimed invention. Neither of the references, or obvious variations of them, shows (i) an exchange system that uses a risk threshold associated with a quote; (ii) a risk level or aggregate risk level that is determined as a result of a trade; or (iii) the use of the threshold and aggregate risk level to automatically modify a quote.

D. There is no Objective Reason to Combine Broka and Mandler

In order to establish the required prima facie case of obviousness of a claimed invention by applying a combination of references, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See M.P.E.P. § 2143.01.

In addition, "a statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the

time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references." *Id.*

The Applicants respectfully submit that the Examiner's Office Action does not provide a prior art reference or a well-reasoned statement showing some suggestion of the desirability of doing what the Applicants have done. Without providing a reference or convincing reasoning, the Examiner, using impermissible hindsight and language paralleling the above-quoted language, states only:

> To have provided the trading system of *Broka* to include a level of risk assessment would have been obvious to one of ordinary skill in the art in view of *Mandler*. The motivation for providing such for an updated quote would have been to incorporate well know risk assessment criteria business rules ...

The Examiner has used the Applicants claims as a roadmap to piece together *Broka* and *Mandler*, as well as additional elements that are supposedly "common knowledge" to one of skill in the art. This is an improper basis on which to predicate an obviousness rejection.

CONCLUSION

Because there is no suggestion to combine the references, the Applicants submit that claims 8-28 are allowable over the cited art. But even if, for the sake of argument, a motivation to combine the teachings did exist (which the Applicants do not concede), the combined teaching of Broka and Mandler fail to provide the method set forth in claim 8, as
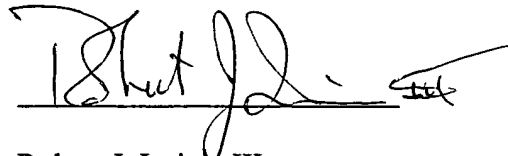
set forth above. Appellants respectfully submit that the outstanding rejection of the claims

on obviousness grounds is in error and should be reversed.

<div style="margin-left:50%">

Respectfully submitted,

McDONNELL BOEHNEN
HULBERT & BERGHOFF
</div>

Date: <u>August 18, 2005</u>   By: _____

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APPENDIX A (PENDING CLAIMS)

8. (original) A method of modifying quotes in an automated exchange trading system that receives orders and quotes from remote computers, matches the orders and quotes to generate trades, and stores orders and quotes that are unmatched, comprising the steps of:

>receiving trading parameters comprising a risk threshold;

>associating said trading parameters with specified ones of received quotes;

>determining whether a quote having associated trading parameters has been filled as a result of a generated trade, and if so, determining a risk level and an aggregate risk level associated with said trade;

>comparing said aggregate risk level with said risk threshold; and,

>automatically modifying at least one of the specified ones of received quotes if said threshold is exceeded.

9. (original) The method of claim 8 wherein the step of determining a risk level comprises calculating a delta value for the generated trade.

10. (original) The method of claim 8 wherein the step of determining a risk level comprises calculating a trading volume for the generated trade.

11. (original) The method of claim 8 wherein the step of determining an aggregate risk level comprises determining a net delta.

12. (original) The method of claim 8 wherein the trading parameters further comprise a time duration, and wherein the step of determining an aggregate risk level comprises summing the deltas from trades involving at least a subset of quotes contained in said quote group that were executed within the time duration.

13. (original) The method of claim 8 wherein the trading parameters further comprise an integer N, and wherein the step of determining an aggregate risk level comprises

3   summing the deltas from the most recent N trades involving at least a subset of quotes

4   contained in said quote group.

1   14. (original) The method of claim 8 wherein the step of determining an aggregate risk

2   level comprises determining a net contract volume.

1   15. (original) The method of claim 8 wherein the step of determining an aggregate risk

2   level comprises determining a weighted sum of contract volumes.

1   16. (original) The method of claim 8 wherein the step of determining an aggregate risk

2   level comprises determining an aggregate volume quantity.

1   17. (original) The method of claim 8 wherein the step of automatically modifying at least

2   one of the specified ones of said received quotes comprises canceling all said specified

3   ones of said received quotes.

1   18. (original) The method of claim 8 wherein the step of automatically modifying at least

2   one of the specified ones of said received quotes comprises reducing the quantity

3   associated with the specified ones of received quotes.

1   19. (original) The method of claim 8 wherein the step of automatically modifying at least

2   one of the specified ones of said quotes comprises revising at least one of the bid and

3   offer values of each of the specified ones of received quotes.

1   20. (original) The method of claim 8 wherein the trading parameters comprise a positive

2   risk threshold and a negative risk threshold.

1   21. (original) The method of claim 20 wherein the step of comparing the aggregate risk

2   level with the risk threshold comprises comparing the aggregate risk level to the

3   positive risk threshold if the aggregate risk level is positive, and comparing the

4   aggregate risk level to the negative risk threshold if the aggregate risk level is negative.

1   22. (original) The method of claim 8 wherein the step of comparing the aggregate risk level

2   with the risk threshold comprises comparing the absolute value of the aggregate risk

3   level to the risk threshold.

1   23. (original) The method of claim 8 wherein each of the specified ones of received quotes
2   are associated with one of a first subgroup and second subgroup, and wherein the step
3   of automatically modifying at least one of the specified ones of received quotes in the
4   quote group comprises reducing the offer values of the quotes in the first subgroup and
5   raising the bid values of the quotes in the second subgroup.

1   24. (original) The method of claim 23 wherein the first subgroup comprises quotes on call
2   series options and the second subgroup comprises quotes on put series options, and
3   wherein the aggregate risk is positive.

1   25. (original) The method of claim 23 wherein the first subgroup comprises quotes on put
2   series options and the second subgroup comprises quotes on call series options, and
3   wherein the aggregate risk is negative.

1   26. (original) The method of claim 23 where the amount of said reducing and raising is
2   determined in response to a modification increment parameter.

1   27. (original) The method of claim 8 further comprising the step of automatically
2   modifying a quote comprises regenerating a quote having associated trading parameters
3   that has been filled as a result of the generated trade.

1   28. (original) The method of claim 27 wherein the step of regenerating a quote is
2   performed utilizing a regeneration increment.

3   29. (canceled)

4   30. (canceled)

1   31. (withdrawn) A method of modifying quotes in an automated exchange trading system

2   comprising the steps of:

3   receiving orders and quotes, wherein specified ones of said quotes belong to a
4   quote group, and wherein said specified ones of said quotes have associated trading
5   parameters comprising a risk threshold;

6	generating a trade by matching said received orders and quotes to previously
7	received orders and quotes;
8	storing each of said orders and quotes when a trade is not generated;
9	determining whether a quote having associated trading parameters has been
10	filled as a result of the generated trade, and if so, determining a risk level and an
11	aggregate risk level associated with said trade;
12	comparing said aggregate risk level with said risk threshold; and,
13	automatically modifying at least one of the remaining said specified ones of said
14	quotes in the quote group if said threshold is exceeded.

1   32. (withdrawn) The method of claim 31 wherein the quotes are stored in a quote data

2   structure containing a plurality of quotes fields and at least one risk threshold field.

1   33. (withdrawn) The method of claim 32, wherein the plurality of quote fields comprises a

2   bid quote field and an offer quote field.

1   34. (withdrawn) The method of claim 32, wherein the data structure further comprises a

2   group indicator field.

1   35. (withdrawn) The method of claim 32, wherein the data structure further comprises a

2   quote modification increment field.

1   36. (withdrawn) The method of claim 32, wherein the data structure further comprises a

2   quote regeneration increment field.

1   37. (withdrawn) The method of claim 32, wherein the data structure further comprises an

2   owner field.